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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/750,456

12/31/2003

J. Nelson Wright

341148019US

4971

69414 7590 03/13/2009
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EXAMINER

WEATHERBY, ELLSWORTH

ART UNIT

PAPER NUMBER

3768

MAIL DATE

DELIVERY MODE

03/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/750,456	Applicant(s) WRIGHT ET AL.	
	Examiner ELLSWORTH WEATHERBY	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/03/2008</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1,3,6,8,12,14,21,23,29,31,42,44 and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al. (USPN 7,158,754).

5. Anderson et al. 754 (hereinafter Anderson) teaches calibrating a sensor array, the sensor array including a plurality of sensing elements (col. 3, ll. 33-40), The method comprising: applying an excitation current to at least one but less than all of the plurality of sensing elements of the sensing array used for marker localization (col. 4, ll. 46-59; col. 10, ll. 35-46); analyzing the output of some or all of the plurality of sensing elements resulting from the excitation (col. 10, ll. 35-60); repeating the excitation and analyzing process for each of the plurality of sensing elements (col. 10, ll. 35-60); and determining corrections to a sensed signal based upon the output of the plurality of sensing elements during marker localization (col. 11, l. 62- col. 12, l. 3). Anderson also teaches a calibration subset (col. 3, ll. 33-40).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2,4,5,13,15,16,22,24,26,30,32,33,43 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (USPN 7,158,754) in view of Amorai-Moriya (USPN 6,487,516).

9. Anderson teaches all the limitations of the claimed invention including teaching an excitation current (col. 4, ll. 46-59; col. 10, ll. 35-46). However, Anderson does not expressly teach a preamplifier or a differential amplifier associated with each sensor.

10. In a similar field of endeavor, Amorai-Moriya teaches providing each sensor of a sensing array with a differential amplifier having first and second amplification elements,

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wherein an induced excitation voltage is applied sequentially to the first and second amplification elements (col. 18, ll. 44-65).

11. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson in view of Amorai-Moriya. The motivation to modify Anderson in view of Amorai-Moriya would have been to provide lower noise operation. Furthermore, the number of amplification elements within the differential amplifier is an obvious design choice and is not given patentable weight since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper co. v. Bemis Co.*, 193 USPQ 8.

12. Claims 7,9,17,25 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (USPN 7,158,754) in view of Goldfine et al. (Pub. No.: 2004/0021461).

13. Anderson teaches all the limitations of the claimed invention except for expressly teaching that the excitation is a voltage to the sensing element.

14. Goldfine et al. (hereinafter Goldfine) teaches a sinusoidal voltage driver for driving a source coil in a sensor array [0129-0130].

15. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson in view of Goldfine. The motivation to modify Anderson in view of Goldfine would have been to drive the sensors using a voltage, as taught by Goldfine.

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16. Claims 10,11,18,20,28,35,37,46 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (USPN 7,158,754) in view of Govari et al. (USPN 6,177,792).

17. Anderson teaches all the limitations of the claimed invention except for expressly teaching that the excitation current is a sinusoidal wave. Anderson also does not expressly teach that the calibrating method is interleaved between marker localization operations.

18. In a similar field of endeavor Govari et al. (hereinafter Govari) teaches mutual induction correction for radiator coils of an objects tracking system (abstract). Govari goes on, teaching driving the coils with sinusoidal currents (col. 7, ll. 42-47). Govari also teaches that a calibrating method is interleaved between marker localization operations (col. 3, ll. 10-23).

19. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson in view of Govari. The motivation to modify Anderson in view of Govari would have been to enable simple corrected magnetic field calculations resulting from the driver circuits associated with each coil, as taught by Govari (col. 7, ll. 43-60).

20. Claims 19, 27, 36 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (USPN 7,158,754) in view of Dumoulin (USPN 6,201,987).

21. Anderson teaches all the limitations of the claimed invention except for expressly teaching that an excitation is applied to more than one of the plurality of sensing elements simultaneously.

22. In a similar field of endeavor, Dumoulin teaches error compensation for device tracking systems employing electromagnetic fields (abstract). Dumoulin goes on, teaching that an excitation is applied to more than one of the plurality of sensing elements simultaneously (col. 4, ll. 35-53).

23. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson in view of Dumoulin. The motivation to modify Anderson in view of Dumoulin would have been to track the direction and magnitude of the magnetic field at the location of the tracked probe, as taught by Dumoulin.

24. Claims 38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (USPN 7,158,754) in view of Dumoulin (USPN 6,201,987).

25. Anderson teaches calibrating a sensor array, the sensor array including a plurality of sensing elements (col. 3, ll. 33-40), The method comprising: applying an excitation current to at least one but less than all of the plurality of sensing elements of the sensing array used for marker localization (col. 4, ll. 46-59; col. 10, ll. 35-46); analyzing the output of some or all of the plurality of sensing elements resulting from the excitation (col. 10, ll. 35-60); repeating the excitation and analyzing process for each of the plurality of sensing elements (col. 10, ll. 35-60); and determining corrections to a sensed signal based upon the output of the plurality of sensing elements during marker

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localization (col. 11, l. 62- col. 12, l. 3). Anderson also teaches a calibration subset (col. 3, ll. 33-40).

26. Anderson does not expressly teach calibrating multiple sensing arrays. Anderson also does not expressly that an excitation is applied to more than one of the plurality of sensing elements simultaneously.

27. In a similar field of endeavor, Dumoulin teaches error compensation for device tracking systems employing electromagnetic fields (abstract). Dumoulin goes on, teaching that the error compensation can be used in multiple structures (col. 7, ll. 5-17). Dumoulin also teaches that an excitation is applied to more than one of the plurality of sensing elements simultaneously (col. 4, ll. 35-53).

28. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson in view of Dumoulin. The motivation to modify Anderson in view of Dumoulin would have been to maintain consistency in calibration between multiple devices.

29. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (USPN 7,158,754) in view of Dumoulin (USPN 6,201,987) as applied to claim 38 above, and further in view of Goldfine et al. (Pub. No.:2004/0021461).

30. Anderson in view of Dumoulin teaches all the limitations of the claimed invention except for expressly teaching that the excitation is a voltage to the sensing element.

31. Goldfine teaches a sinusoidal voltage driver for driving a source coil in a sensor array [0129-0130].

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32. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson in view of Dumoulin with Goldfine. The motivation to modify Anderson in view of Dumoulin with Goldfine would have been to drive the sensors using a voltage, as taught by Goldfine.

33. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (USPN 7,158,754) in view of Dumoulin (USPN 6,201,987) as applied to claim 38 above, and further in view of Govari et al. (USPN 6,177,792).

34. Anderson in view of Dumoulin teaches all the limitations of the claimed invention except for expressly teaching that the excitation current is a sinusoidal wave. Anderson also does not expressly teach that the calibrating method is interleaved between marker localization operations.

35. In a similar field of endeavor Govari teaches mutual induction correction for radiator coils of an objects tracking system (abstract). Govari goes on, teaching driving the coils with sinusoidal currents (col. 7, ll. 42-47). Govari also that a calibrating method is interleaved between marker localization operations (col. 3, ll. 10-23).

36. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson in view of Dumoulin with Govari. The motivation to modify Anderson in view of Dumoulin with Govari would have been to enable simple corrected magnetic field calculations resulting from the driver circuits associated with each coil, as taught by Govari (col. 7, ll. 43-60).

Response to Amendment

37. The declaration filed on 12/01/2008 under 37 CFR 1.131 has been considered but is ineffective to overcome the Anderson (USPN 7,158,754) reference.

38. The 12/01/2008 Declaration Under 37 C.F.R. § 1.131 concludes that: “the methods and systems as claimed in the Present Application were conceived prior to July 1, 2003, the filing date of the Anderson Patent.”. By Applicant’s own admission, Exhibit A merely supports a *conception* of the invention prior to July 1, 2003 (see 12/01/2008 Rule 131 Affidavit at pg. 2, #4 & #5: “In support of this conclusion, I have attached Exhibit A, which represents a redacted invention disclosure...”). Here, the examiner acknowledges that the Declaration provides sufficient evidence showing that the invention was conceived prior July 1, 2003.

39. The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Anderson (USPN 7,158,754) reference to either a constructive reduction to practice or an actual reduction to practice.

40. When alleging that conception or a reduction to practice occurred prior to the effective date of the reference, the dates in the oath or declaration may be the actual dates or, if the applicant or patent owner does not desire to disclose his or her actual dates, he or she may merely allege that the acts referred to occurred prior to a specified date. However, the actual dates of acts relied on to establish diligence must be provided. See MPEP § 715.07(a) regarding the diligence requirement.

41. The Examiner stands that the 12/01/2008 Declaration of J. Nelson Wright Under 37 C.F.R. § 1.131 does not establish actual dates relied on, nor does it show clear and concise evidence of reasonable diligence in reducing the invention to practice prior to the entry in the field of Anderson. That is, the 12/01/2008 Declaration merely states that that “after conceiving this invention, I diligently proceeded to reduce this invention to practice...” (See 12/01/2008 Rule 131 Affidavit at pg. 2, #6). The Examiner stands that the Declaration does not provide an actual date. Here, the Declaration is unclear because applicant may have acted diligently intermittently, and/or on any day after the “prior to the July 1, 2003” conception and prior to the December 31, 2003 filing date of the Present Application. Also, this is a mere allegation of diligence.

42. An applicant must account for the entire period during which diligence is required. *Gould v. Schawlow*, 363 F.2d 908, 919, 150 USPQ 634, 643 (CCPA 1966) (Merely stating that there were no weeks or months that the invention was not worked on is not enough.); *In re Harry*, 333 F.2d 920, 923, 142 USPQ 164, 166 (CCPA 1964) (statement that the subject matter “was diligently reduced to practice” is not a showing but a mere pleading). A 2-day period lacking activity has been held to be fatal. *In re Mulder*, 716 F.2d 1542, 1545, 219 USPQ 189, 193 (Fed. Cir. 1983) (37 CFR 1.131 issue); *Fitzgerald v. Arbib*, 268 F.2d 763, 766, 122 USPQ 530, 532 (CCPA 1959) (Less than 1 month of inactivity during critical period. Efforts to exploit an invention commercially do not constitute diligence in reducing it to practice. An actual reduction to practice in the case of a design for a three-dimensional article requires that it should be embodied in some structure other than a mere drawing.); *Kendall v. Searles*, 173 F.2d

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986, 993, 81 USPQ 363, 369 (CCPA 1949) (Diligence requires that applicants must be specific as to dates and facts.).

43. Furthermore, where conception occurs prior to the date of the reference, but reduction to practice is afterward, it is not enough merely to allege that applicant or patent owner had been diligent. *Ex parte Hunter*, 1889 C.D. 218, 49 O.G. 733 (Comm'r Pat. 1889). Rather, applicant must show evidence of facts establishing diligence.

44. The evidence submitted is insufficient to establish applicant's alleged actual reduction to practice of the invention in this country or a NAFTA or WTO member country after the effective date of the Anderson (USPN 7,158,754) reference.

45. The Examiner stands that the 12/01/2008 Declaration of J. Nelson Wright Under 37 C.F.R. § 1.131 does not establish clear and concise evidence showing a reduction to practice of the invention occurring before the filing date of the present application.

Although the Declaration provides redacted evidence showing conception of the invention before July 1, 2003 (See 12/01/2008 Rule 131 Affidavit at pgs. 1-2, #4-#5), it does not provide a date showing clear and concise evidence of a reduction to practice before December 31, 2003.

46. By Applicant's own admission, the invention was "constructively reduced to practice with the filing of U.S. Application 10/750,456 filed December 31, 2003..." (See 12/01/2008 Rule 131 Affidavit at pg. 2, #7). This is the only clear and concise evidence that shows an actual date of a reduction to practice of the invention.

47. That is, applicant's allegation that "after conceiving this invention, I diligently proceeded to constructively reduce this invention to practice" does not constitute clear and concise evidence showing reduction to practice and/or diligence before December 31, 2003 (See 12/01/2008 Rule 131 Affidavit at pg. 2, #6-#7). Instead, the Declaration merely alleges that applicant proceeded to reduce the invention to practice after the conception date, "prior to July 1, 2003". The Examiner stands that applicant's Declaration that applicant proceeded to *reduce the invention to practice* after the "prior to July 1, 2003" *conception* is unclear and merely provides a range of relative dates, which could include fatal dates.

Response to Arguments

48. Applicant's arguments filed 12/01/2008 have been fully considered but they are not persuasive. Applicant alleges that the 12/01/2008 Declaration Under 37 C.F.R. § 1.131 removes Anderson as a reference. However, the Examiner stands that the Declaration is ineffective to overcome the Anderson (USPN 7,158,754) reference (See Response to Amendments).

49. Because applicant has not set forth any additional arguments with respect to the prior art rejections, claims 1-49 stand rejected on the set forth above.

Conclusion

50. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELLSWORTH WEATHERBY whose telephone number is (571) 272-2248. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EW

/Long V Le/
Supervisory Patent Examiner, Art Unit 3768